

From: [Linc Wehrly](#)
To: [Robin Moran](#)
Subject: Re: Honda New Diesel Technology
Date: 09/26/2006 09:50 AM

That's correct. The system will not need urea because it will generate NH3 from the

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cc

Received Date:
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Subject: Re: Honda New Diesel Technology 

Hi Linc, thanks. So just to clarify, the Honda system won't need urea replenishment?

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Sent by: Linc Wehrly

To: [Karl Simon/DC/USEPA/US@EPA](#)
cc: [Janet Cohen/AA/USEPA/US@EPA](#), [Clifford Dean/DC/USEPA/US@EPA](#)

Subject: Honda New Diesel Technology

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Karl,

According to the press release from Honda's website, they have developed a catalyst that combines a NOx adsorber with a SCR catalyst. The concept of using a NOx adsorber and a SCR catalyst is not unique. The approach is fairly simple:

- They have combined a NOx adsorber and a SCR catalyst into a single catalyst. They have done this through the use of different catalyst layers. The bottom layer is a conventional

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DaimlerChrysler has a similar design in their Bluetec 1 technology which we just certified for 2007 in the Mercedes E320.

- NOx adsorbers naturally produce NH₃, albeit at lower levels. Both Eaton and DaimlerChrysler use the NH₃ generated from the NOx adsorber as a reductant (similar to urea) for the SCR catalyst. The DaimlerChrysler system has a NOx efficiency for the SCR catalyst of approximately [CBI / Ex. 4] while the Eaton system has an estimated NOx efficiency of [CBI / Ex. 4]. We don't know what the efficiency would be for the SCR portion of the new Honda system because they have combined the two catalysts into a single catalyst.
- The advantage to using such a design would be the improved NOx efficiency achieved, since conventional NOx adsorbers quickly deteriorate from 80-85% efficiency to 50-60% efficiency before stabilizing. This approach allows them to avoid having to deal with conventional SCR which requires the periodic replenishment of urea or other reductant. By packaging two catalyst systems into a single catalyst, they can save on catalyst costs and reduce packaging concerns.

The press release can be found at
<http://world.honda.com/news/2006/c060925DieselEngine/>

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